UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/575,532	BLUMBERG ET AL.
	Examiner	Art Unit	
	CHARLES R. KASENGE	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *51-91* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *51,52 and 58-91* is/are rejected.
7)☒ Claim(s) *53-57* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *23 July 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 51-91 have been considered but are moot in

view of the new ground(s) of rejection.

Double Patenting

2.   The nonstatutory double patenting rejection is based on a judicially created doctrine
grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or
improper timewise extension of the "right to exclude" granted by a patent and to prevent possible
harassment by multiple assignees.   A nonstatutory obviousness-type double patenting rejection
is appropriate where the conflicting claims are not identical, but at least one examined
application claim is not patentably distinct from the reference claim(s) because the examined
application claim is either anticipated by, or would have been obvious over, the reference
claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re
Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225
USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re
Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may
be used to overcome an actual or provisional rejection based on a nonstatutory double patenting
ground provided the conflicting application or patent either is shown to be commonly owned
with this application, or claims an invention made as a result of activities undertaken within the
scope of a joint research agreement.
        Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR
3.73(b).

3.   Claims 51, 52, 63, 70, 86-88, 90 and 91 are provisionally rejected on the ground of

nonstatutory obviousness-type double patenting as being unpatentable over claims 34, 35, 37 and

44 of copending Application No. 11/483,275. Although the conflicting claims are not identical,

they are not patentably distinct from each other because the'275 application contains all the

limitations of the instant application.

Regarding claims 86, 87, 90 and 91, Official notice is taken that using open loop or closed loop control for a control device was well known at the time the invention was made in the analogous art of computer controlled machining.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use open or closed loop control for a control device. One of ordinary skill in the art would have been motivated to do this since either form of control are typically used by machining systems.

Therefore, it would have been obvious to modify '275 application to obtain the invention as specified in claim 86, 87, 90 and 91.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 51, 52, 58-86 and 88-90 are rejected under 35 U.S.C. 102(e) as being anticipated by Baumann U.S. Patent 7,003,373.

6.   Regarding claims 51 and 88, Baumann discloses a multiaxis machine tool for producing workpieces having a helicoidal generated surface, comprising: a workpiece holder for receiving a

workpiece (col. 4, lines 48-53); a tool (col. 3, lines 47-52); activatable mechanical axes for

machining the workpiece or for positioning the workpiece and the tool in relation to each other

(col. 9, lines 3-6); and a control device for activating the mechanical axes, wherein there is

provided at least one virtual axis, which can be parameterized as a guiding axis for other axes

and then serves only for the synchronization of these other axes (col. 4, lines 23-41).

Regarding claim 52, Baumann discloses the multiaxis machine tool according to claim

51, wherein at least five activatable mechanical axes are provided for the positioning of the

workpiece and the tool in relation to each other (col. 9, lines 3-6; Fig. 3).

Regarding claim 58, Baumann discloses the multiaxis machine tool according to claim

51, wherein the virtual axis is formed by the control device by means of a freely selectable

function or relation (col. 2, lines 24-55).

Regarding claim 59, Baumann discloses the multiaxis machine tool according to claim

51, wherein the virtual axis is formed by the control device by means of a freely selectable

function or relation dependent on time (col. 2, lines 24-55).

Regarding claim 60, Baumann discloses the multiaxis machine tool according to claim

58, wherein a polynomial function serves as the freely selectable function (col. 9, lines 30-40).

Regarding claim 61, Baumann discloses the multiaxis machine tool according to claim

58, wherein a circular relation serves as the freely selectable relation (col. 9, lines 7-16).

Regarding claim 62, Baumann discloses the multiaxis machine tool according to claim

58, wherein a relation given by a table of values serves as the freely selectable relation (col. 2,

lines 24-55).

Regarding claim 63, Baumann discloses the multiaxis machine tool according to claim 51, wherein the activation of the respective mechanical axis by the control device takes place by means of a freely selectable function or relation (col. 2, lines 24-55).

Regarding claim 64, Baumann discloses the multiaxis machine tool according to claim 51, wherein the activation of the respective mechanical axis by the control device takes place by means of a freely selectable function or relation which is dependent on the value of one of the virtual axes (col. 2, lines 24-55).

Regarding claim 65, Baumann discloses the multiaxis machine tool according to claim 64, wherein the activation of the respective mechanical axis by the control device takes place by means of a freely selectable function or relation which is also dependent on the value of further parameters (col. 2, lines 24-55).

Regarding claim 66, Baumann discloses the multiaxis machine tool according to claim 65, wherein a polynomial function which is dependent on the value of one of the virtual axes and polynomial coefficients serves as the freely selectable function (col. 9, lines 30-40).

Regarding claim 67, Baumann discloses the multiaxis machine tool according to claim 65, wherein a circular relation which is dependent on the value of one of the virtual axes and circle constants, preferably a circle radius and a centre point, given by a pair of coordinates, and a direction of rotation serves as the freely selectable relation (col. 9, lines 7-16).

Regarding claim 68, Baumann discloses the multiaxis machine tool according to claim 58, wherein the activation of the respective mechanical axis by the control device takes place by means of a freely selectable relation which is given by a table of coordinates (col. 2, lines 24-55).

Regarding claim 69, Baumann discloses the multiaxis machine tool according to claim 68, wherein an X coordinate, a Y coordinate and a normal angle, as viewed in end-on section, are used as coordinates of the table of coordinates (Fig. 8).

Regarding claim 70, Baumann discloses the multiaxis machine tool according to claim 51, wherein a memory is also provided, stored in which are machine control parameters which are accessed by the control device (col. 9, lines 22-30; Fig. 5 and 7).

Regarding claim 71, Baumann discloses the multiaxis machine tool according to claim 70, wherein the memory also stores a data structure which allows the parameterization of the virtual axis as a guiding axis for other axes (col. 2, lines 24-55; col. 9, lines 22-30 and 40-48).

Regarding claim 72, Baumann discloses the multiaxis machine tool according to claim 70, wherein the memory also stores a data structure which also allows the parameterization of any mechanical axis as a guiding axis for other axes (col. 2, lines 24-55; col. 9, lines 22-30 and 40-48).

Regarding claim 73, Baumann discloses the multiaxis machine tool according to claim 70, wherein in the memory in which machine control parameters accessed by the control device are stored there is a data structure which is intended for receiving a definition of the function or relation for the formation of the virtual axis by the control device (col. 2, lines 24-55; col. 9, lines 22-30 and 40-48).

Regarding claim 74, Baumann discloses the multiaxis machine tool according to claim 70, wherein in the memory in which machine control parameters accessed by the control device are stored there is a data structure which is intended for receiving a definition of the function or relation for the activation of the respective mechanical axis by the control device.

Regarding claim 75, Baumann discloses the multiaxis machine tool according to claim 74, wherein at least one predefined type of function or relation is provided and the data structure has at least one data field for the identification of the predefined type of function or relation, used for the definition of a function or relation of the respective mechanical axis (col. 9, lines 30-40).

Regarding claim 76, Baumann discloses the multiaxis machine tool according to claim 75, wherein one of the at least one predefined type of function is a polynomial function with polynomial coefficients as parameters (col. 9, lines 30-40).

Regarding claim 77, Baumann discloses the multiaxis machine tool according to claim 76, wherein the polynomial is of the sixth degree (col. 9, lines 30-40).

Regarding claim 78, Baumann discloses the multiaxis machine tool according to claim 74, wherein one of the at least one predefined type of relation is a circular relation with a circle radius and a centre point, given by a pair of coordinates, and a rotating direction as parameters (col. 9, lines 7-16).

Regarding claim 79, Baumann discloses the multiaxis machine tool according to claim 74, wherein one of the at least one predefined type of function is a table of coordinates with coordinates as parameters (Fig. 8; col. 9, lines 49-56).

Regarding claim 80, Baumann discloses the multiaxis machine tool according to claim 79, wherein an X coordinate, a Y coordinate and a normal angle, as viewed in end-on section, are used in each case as coordinates (Fig. 8, 3 and 4).

Regarding claim 81, Baumann discloses the multiaxis machine tool according to claim 74, wherein, in the memory in which machine control parameters accessed by the control device are stored, there is a data structure which is intended for receiving an identification of the

workpiece flank being machined by the activation of the respective mechanical axis by the

control device (col. 6, lines 30-46).

Regarding claim 82, Baumann discloses the multiaxis machine tool according to claim

74, characterized in that in the memory in which machine control parameters accessed by the

control device are stored there is a data structure which combines at least one group of machine

control parameters corresponding to a partial region of the workpiece, as a segment under a

common segment identification (col. 6, lines 6-46).

Regarding claim 83, Baumann discloses the multiaxis machine tool according to claim

82, wherein the common segment identification is a segment number (col. 6, lines 6-46; Fig. 8).

Regarding claim 84, Baumann discloses the multiaxis machine tool according to claim

82, characterized in that such a group of machine control parameters for which the same axis is

parameterized as the guiding axis are always combined as a segment (col. 6, lines 6-46).

Regarding claims 85 and 89, Baumann discloses the multiaxis machine tool according to

claim 51, further having a memory and means for reading into the memory machine control

parameters for the control device from a data carrier or electronic carrier signal, the data carrier

or carrier signal having at least one data structure which has a data field which allows the

parameterization of the virtual axis as a guiding axis for other axes, and the data carrier or carrier

signal activating the machine tool during the reading-in or after the reading-in by means of this

data structure (col. 4, lines 23-41).

Regarding claims 86 and 90, Baumann discloses the multiaxis machine tool according to

claim 51, wherein the control device is an open-loop control device (Fig. 7).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   Claims 87 and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Baumann et al. U.S. Patent 7,003,373.

Official notice is taken that using closed loop control for a machining control device was

well known at the time the invention was made in the analogous art of computer controlled

machining.

At the time the invention was made, it would have been obvious to a person of ordinary

skill in the art to closed loop control for a control device. One of ordinary skill in the art would

have been motivated to do this since closed loop feedback systems are typically used to ensure

that machining is accurately machined to the desired specifications.

Therefore, it would have been obvious to modify Baumann to obtain the invention as

specified in claim 87 and 91.

Allowable Subject Matter

9.   Claims 53-57 are objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base claim

and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES R. KASENGE whose telephone number is (571)272-3743. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 571 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CK
October 21, 2008

/Charles R Kasenge/
Examiner, Art Unit 2121